

## **An Analysis of Historically Black Colleges and Universities Student Retention and Attrition Efforts**

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**Abstract:** *The purpose of this study was to identify persistence factors that influenced African American doctoral students' completion at selected historically Black colleges and universities (HBCUs) in the Southern region of the United States. The conceptual framework for this study includes an integration of theoretical constructs from four widely utilized and tested theories of undergraduate student persistence guided by the theoretical framework of student motivation, student choice, and student persistence. Data were collected utilizing a Likert scale survey, the Doctoral Student Persistence Survey which assessed the perceptions of doctoral students as to factors which promote persistence and those perceived barriers for student success.*

An Analysis of Graduate Student Retention and Attrition Efforts at Selected Historically Black Colleges and Universities in the Southern Region of the United States

## 1. INTRODUCTION

Research universities in the United States are internationally known as the foremost institutions in graduate education. With this reputation, research institutions have recruited students of all nationalities, ethnic groups, and religions for their student population. However, in the United States, graduate schools have been less successful in recruiting the minority population which includes: Hispanics, African Americans, Asians, and Native Americans. In fact, the proportion of minority students in higher education declines as one moves from baccalaureate to master's to doctoral degree programs, and at each level the percentage is well below the percentage of these individuals in the U.S. population (American Council on Education, 2003). Simultaneously, the nation's minority population is steadily rising and now makes up 35 percent of the United States, illustrating a trend that could make minorities the new American majority by 2050.

New Census Bureau data estimates that minorities added more than 2 percent in 2009 increasing to 107.2 million people, due to Hispanic births and more Americans describing themselves as multiracial. During this time, the White population remained flat, making up roughly 199.9 million, or 65 percent, of the country. Just ten years ago, Whites comprised 69 percent of the total population and minorities 31 percent. Currently four states – Hawaii, New Mexico, California and Texas – as well as the District of Columbia have minority populations that exceed 50 percent (Census Bureau, 2010). Such demographic changes in the nation will be reflected in the graduate student population.

In the last decade, African Americans have made advances in doctoral degrees (National Science Foundation [NSF], 2007). From 1996 to 2006; the number of African American doctoral recipients increased 27%. In that same period, the total number of Ph.D.s conferred by all United States universities increased by 8%. In the last twenty years, the number of African Americans who received doctorates in science and engineering has more than doubled (National Science Board, 2008). While graduate schools have made great efforts to increase graduate enrollment and degree success for African American students, HBCUs have led the increase in the number of African American doctoral degree holders.

Another factor fueling this increase was affirmative action programs created by colleges and universities during the late 1960s and 1970s, largely to comply with Title VI of the *Civil Rights Act of 1964*, which prohibits several types of discrimination in student recruitment, admissions, and financial aid (Ervin & Davenport, 2007). This growth was aided by the Supreme Court's decision in *Regents of the University of California v. Bakke* (438 U.S. 265, 1978), which allowed race to be a determinant in the admission to graduate schools. Preferential race-based programs were developed partly in response to the demands to improve the graduation rates of minority students at Traditionally White Institutions (TWIs).

The perceptions of barriers and strategies for the recruitment and retention of diverse graduate student population of college and university administrators and others who are responsible for recruitment and retention of the graduate student population are critical players for creating changes in higher education during the 21st century. Therefore, the purpose of this study was to identify persistence factors that influenced African American doctoral students' completion at selected historically Black colleges and universities (HBCUs) in the Southern region of the United States. The conceptual framework for this study includes an integration of theoretical constructs from four widely utilized and tested theories of undergraduate student persistence guided by the theoretical framework of student motivation, student choice, and student persistence.

## 2. BACKGROUND

The *Higher Education Act of 1965* defined an HBCU as any historically Black college or university, established prior to 1964, whose principal mission was, and is, the education of African Americans. These educational institutions are accredited by a nationally recognized

accrediting agency or association, as determined by the United States' Secretary of Education to be a reliable authority as to the quality of training offered or is, according to such an agency or association, making reasonable progress toward accreditation HBCUs were founded during an era when African American students were barred from attending traditionally white, postsecondary institutions. The Civil Rights Movement opened the doors of traditionally White colleges and universities to minority students, some policymakers have challenged the relevance of HBCUs, arguing that they serve no purpose in an integrated system of higher education. Of the 105 HBCU institutions in America today, 27 offer doctoral programs and 52 provide graduate degree programs at the Master's level.

However, HBCU graduate programs continue to help promote campus diversity nationally as a result of assaults to affirmative action. In 1996, California voters passed Proposition 209. The initiative prohibits discrimination against or preferential treatment for any individual or group in public employment, education, or contracting on the basis of race, sex, color, ethnicity, or national origin (Ervin & Davenport, 2007). Voters in Washington State followed suit in 1998, and voters in Texas accepted similar initiatives as well (Chang, Witt, Jones, & Hakuta, 2000). Meanwhile, *Grutter v. Bollinger* (539 U.S. 306 (2003)), a case in which the United States Supreme Court upheld the affirmative action admissions policy of the University of Michigan Law School, 5-4 decision, was overturned by a referendum of Michigan voters.

Therefore, today although HBCUs represent only 4% of all colleges and universities in the U.S., they account for nearly one-quarter of the African American bachelor's degree recipients (Redd, 2000). HBCUs have been increasing their involvement in graduate education and since 1996 more HBCUs have begun to offer doctoral programs. Prior to 1996, less than one-quarter of the 87 four-year public and private HBCUs awarded doctorates. By 2006, the percentage of HBCUs with doctoral programs grew to 32%, with just under fifty percent of the four-year public historically Black institutions offering such programs. The increase in HBCUs offering doctorates and the number of graduate students attending these programs has led to a rapid growth in the number of African Americans receiving Ph.D.s and other doctoral degrees in the past five years. In fact, the percentage increases in African American doctorates from HBCUs appears to have accelerated, while the number of these awards overall has slowed.

The enrollment of African Americans and students of color in graduate programs is one of many problems facing this country. A lack of minority graduate students in the educational pipeline means a lack of minorities in higher education and despite minimal gains recruiting, retaining, and graduating minority students in graduate programs, a problem still exists in the graduation of doctoral students, and many universities are searching for innovative strategies to increase retention and graduation of African American students. As the overall color scheme of the Flagship and Research I institutions across the nation has become more Asian and White, African American graduates and people of color are being displaced (Hale, 2006). Therefore, this further highlights the importance of additional examination of issues related to retention and graduation rates of African Americans at HBCUs. Because of this growing trend, HBCUs have become a refuge of last resort for graduate exploration of many African Americans and people of color (Garibaldi, 1984).

**Table 1.** Percentages of Change in Doctoral Degrees Awarded to African Americans at HBCU Compared with All U.S. Universities

	1996-2000	2001-2006	1996-2006
HBCUs*	35%	36%	82%
All Universities*	25%	3%	27%

\*Includes awards to U.S. Citizens and permanent residents only Source CGSNER. ORG

Hale (2006), stated: "Black institutions of higher education have assumed the burden of responsibility for those students who have hungered for knowledge and the opportunity to gain it" (p. xvii). Therefore, the question this society must ask itself is, if HBCUs do not "do it right," that is retain, adequately prepare and graduate minority students, who will do it? (Hale, 2006). HBCUs now more than ever have an even more important role in society through the education of African American graduates prepared and ready to compete in the global market.

### 3. RETENTION AND ATTRITION THEORETICAL MODELS

Retention in post-secondary education is described as activities or programs which reduces student dropout rates and enhance the institution's overall graduation rates (Pascarella & Terenzini, 1991). However, there exists a vast array of literature on student retention and attrition in general; over the past half century. According to Pascarella and Terenzini (1991), numerous studies such as Bean and Metzner's (1985) Nontraditional Student Attrition Environmental, where they discovered environmental factors have a greater impact on departure decisions of adult students than academic variables. Kamens (1971, 1974), used multi-institutional data to demonstrate how colleges of greater size and complexity had lower attrition rates. McNeely (1973) "College Student Mortality", examined many factors in college student retention including time to degree, when attrition was most prevalent in a student's education, and impact of college size Spady Model (1971) studied the interaction between student characteristics and campus environment; all conducted to relate the affects of colleges themselves on the retention, attrition and graduation of students. Among them the most noted have been Tinto's Student Integration Model (SIM, 1975, and 1997); Astin's Student Involvement Theory (SIT, 1984); Bean's Student Attrition Model (SAM, 1982, 1983, 1985, and 1990); and, Padilla's Expertise Model of Successful Students (EMSS, 1991, and 1994).

### 4. TINTO'S STUDENT INTEGRATION MODEL

Tinto (1975) developed the Student Integration Model (SIM) of attrition (see Figure 1). This model was to offer an explanation of the aspects and procedures that influenced an individual's decision to leave an institution, and how these processes interact to ultimately produce institutional attrition. Tinto's SIM model was based solely on Durkheim's (1897) theory of suicide (McCubbin, 2003). According to McCubbin (2003), Durkheim's theory was founded in the likelihood of someone committing suicide being predicated on the level of their integration into society as a whole.

Durkheim (1897) argued that if an individual has an adequate support network and sufficient moral integration that the likelihood of them committing suicide is reduced tremendously. To this assertion, Tinto (1975) interjected that the act of committing suicide was basically the willful withdrawal from existence by individuals, and, therefore, was equivalent to dropping out of higher education, which was the willful withdrawal by an individual from one aspect of society. Durkheim concluded that the reason an individual commits suicide is because he or she are not sufficiently integrated into society. Conversely, Tinto (1975) asserted the reason for dropping out is a result of the individual's insufficient integration into the different aspects of college or university life (Tinto, 1975)

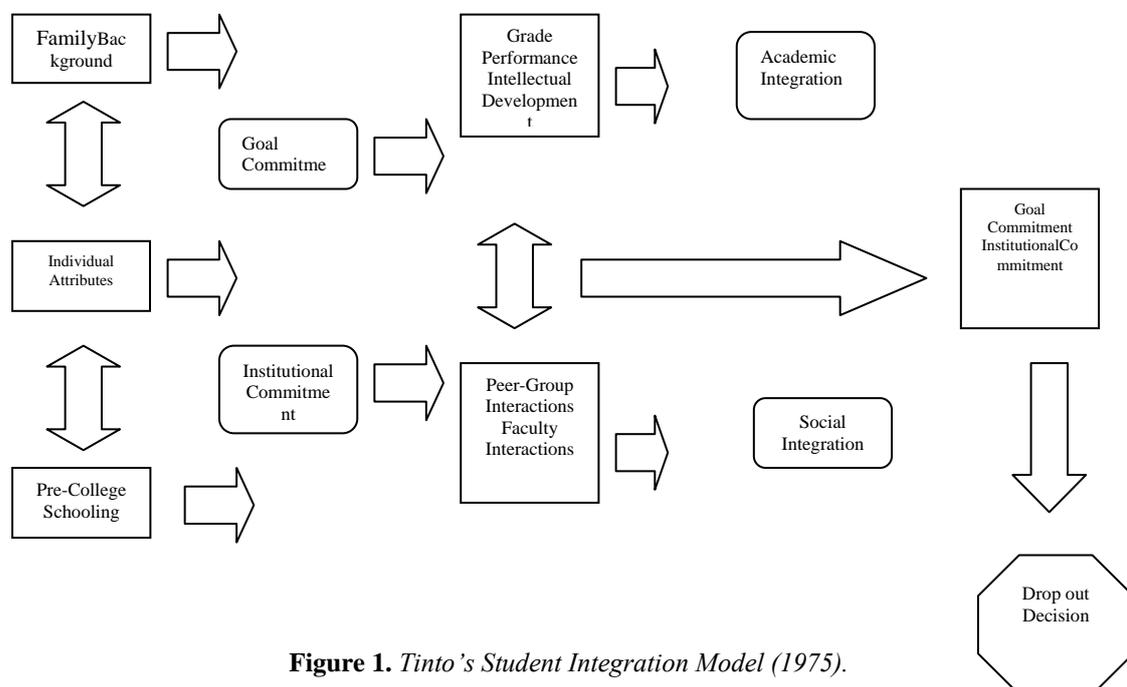


Figure 1. Tinto's Student Integration Model (1975).

According to Tinto (1975), the two most important means of student integration in a college or university are the institution's academic and the social systems. Tinto asserted that a student's reasoning for dropping out occurs through the lack of or extreme integration into either or both systems. Tinto asserted that if a student expends a great amount of time studying that his or her social skills suffer and vice versa. He further indicated that if a student spends a large amount of time on social activities and not enough time dedicated to studying or academics, then his or her grades reflect it. Unlike Durkheim's (1897) model, Tinto's (1975) model, according to McCubbin (2003), failed to take into account the individual's psychological predisposition in the decision to withdraw.

Key features of Tinto's SIM model included the degree of integration in the institution's academic and social systems, and the student's commitment to the institution itself and his or her individual goals (the enrollment commitment). Tinto (1975) pointed out a number of characteristics which affect the student's pre-enrollment commitment. These include individual attributes which include race, sex and academic ability. Pre-college experiences include a student's grade point average, academic and social recognitions, and family background, (i.e., socioeconomic status, family values, climates and cultural backgrounds (Tinto, 1975).

Included also in this model are an individual's educational expectations, which drive the student's selection of educational institutions. This researcher stated that because each student views selection of an educational institution as pivotal to future success, commitment to that institution persistence is greatly enhanced. A student's assessment of their post secondary experience comes in the form of cost benefits analysis. According to Tinto (1975), if the student determines that the cost benefit is high, the likelihood is that the individual will persist, and on the other hand, if he or she concludes that the cost benefit analysis is low, then it is more likely to cause dropout or withdrawal.

Tinto asserted that persisters and non-persisters view educational processes differently. Non-persisters see education as a vocational process and persisters view it as an intellectual gain. He makes a direct link of attrition to social integration, stating that it likely leads to voluntary withdrawal rather than academic dismissal. Social integration within the faculty is one of its most important aspects. According to Tinto, interaction with faculty not only increases the student's level of social integration, but it also leads to increased academic integration which translates to increased academic performance by the student.

Tinto's (1975) student integration model illustrates his premise that academic and social integration, individual goal and institutional commitment are intertwined in a student's decision to persist. He asserted that academic integration has a direct impact on a student's individual goal commitment and commitment to his or her chosen institution is directly affected by his or her ability to socially integrate.

While Tinto's SIM (1975) has been widely accepted for more than twenty years, according to McCubbin (2003), several criticisms exist. McCubbin stated that the criticisms revolve around Tinto's SIM are "(a) inadequate in modeling student attrition; (b) only applicable to 'traditional students'; and, (c) academic integration is not an important predictor of student attrition in traditional student populations."

The criticism that SIM is inadequate in modeling student attrition stems from research conducted by Brunnsden, Davies, Shevlin and Bracken in 2000. In their study, Brunnsden et al. (2000) administered a questionnaire to first year students to assess the validity of Tinto's model. They found that global application of the model proved impossible to assess its individual components. However, Brunnsden et al. (2000), in their assessment and criticism, did indicate possible shortcomings of their own study, since they did not actually assess social or academic integration, only the potential of these characteristics (Brunnsden et al., 2000). They also openly criticized Tinto's reliance on Durkheim's model of suicide, arguing that serious doubts arise when linking the relationship of suicide and student dropout.

In an effort to address the levied criticisms of Tinto's SIM model, he made updates to take into account the importance of the classroom in the educational environment and attrition process (Tinto, 1997). Tinto affirmed the importance of classroom-faculty interaction on the processes of

academic and social integration. It is through this process that institutions realize significance in attrition rates reduction (Tinto, 1997).

In the SIM model revisions, Tinto (1997) asserted previous inadequacies in his original model as seen in Figure 2. These inadequacies occur in his modeling of the relationships between learning persistence, involvement, and quality of effort (McCubbin, 2003). He asserted the inadequacies in how SIM previously assessed the relationship between social and academic interaction as separate and discrete. He subsequently concluded that they are factors of the larger process and do not warrant individual consideration.

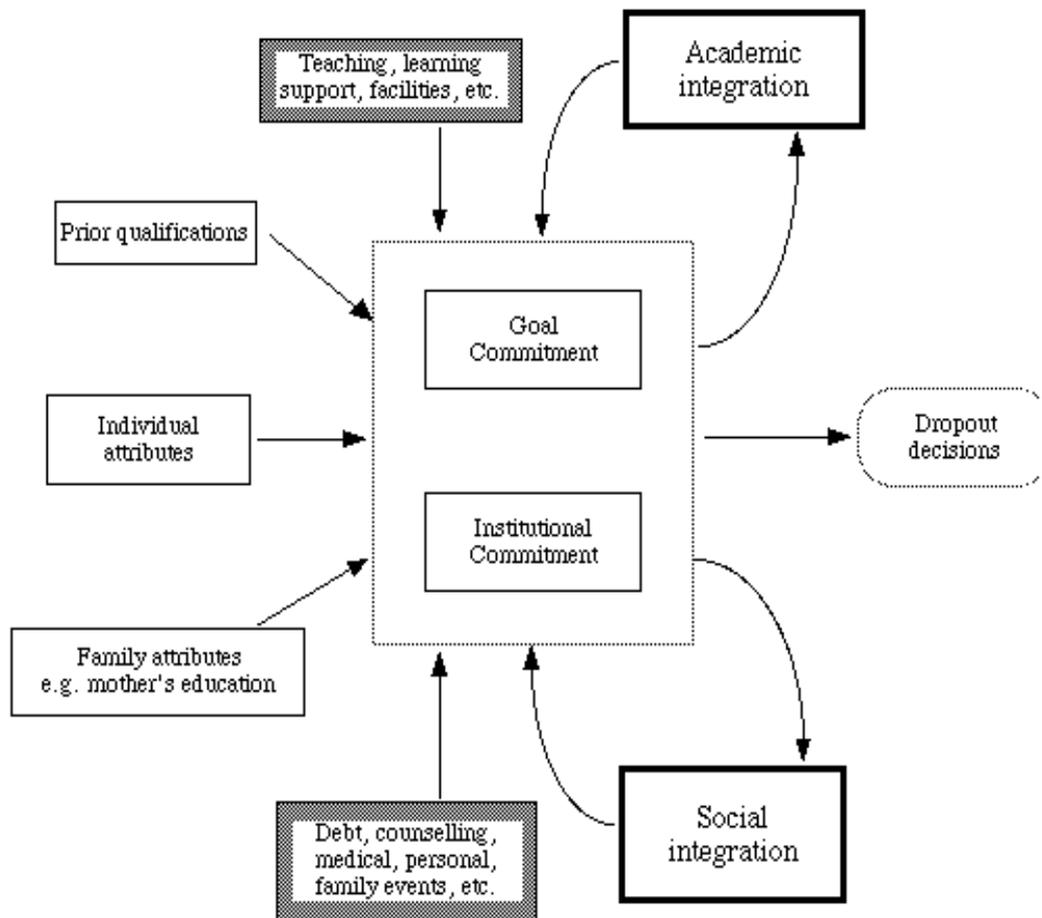


Figure 2. Tinto's Student Integration Model revised 1997.

Categories	Examples
Pre-College Factors	Sex, Race, Socio-Economic Status, SAT Scores, Class Rank
Goals & Commitment	Commitment – degree completion, commitment to the education and occupational goals one holds

Figure 5. Tinto's Student Integration Model revised 1997 Continued

Categories	Examples
Institutional Commitment	Commitment to the institution in which he or she is enrolled and the degree to which one is willing to work towards attaining one's goals within a given institution

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Social Integration	Ability to make friends, involvement in extra-curricular activities.
Academic Integration	Involvement with faculty, passing a course

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### **5. ASTIN’S STUDENT INVOLVEMENT THEORY**

Astin’s (1984) Student Involvement Theory posited that a student’s participation in an institution’s academic as well as social environments encourages enhanced learning and thus equates to retention of students and their successful graduation. Astin (1984) stated that students who are involved devote considerable energy to academics, spend time on campus, participate actively in student organizations and activities, and network often with faculty. On the other hand, he asserted that uninvolved students neglect their studies, spend little time on campus, abstain from extracurricular activities, and rarely initiate contact with faculty or other students (Astin, 1984). The most persuasive types of involvement are “academic involvement, involvement with faculty, and involvement with student peer groups” (Astin, 1996, p. 126). This theory is consistent with student-centered teaching approaches, in that the student has an integral role in determining her or his own degree of involvement in various educational activities.

According to Astin (1984), the quantity and quality of a student’s involvement influences educational value added attributes such as cognitive learning, overall satisfaction with the college experience, and increased student retention rates, which translates to increased graduation rates (Astin, 1984, 1996). For a student to be totally involved in the learning process, he or she must invest genuine energy in the academic relationships and activities of the institution. The amount of energy a student invests in these types of activities will vary based upon the student’s interest, goals, and other commitments.

Astin (1984) argued that instructors should use the involvement theory to maximize student learning. To accomplish that goal, instructors must be aware of how motivated students are and how much time and energy they are devoting to the learning process. Studies conducted by Pascarella and Terenzini (1991) and Tinto (1993) have investigated the effectiveness of Astin’s (1984) Student Involvement Theory and offer support of his assertion that positive levels of involvement positively influences student’s academic experiences (Ford-Edwards, 2002).

### **6. BEAN’S STUDENT ATTRITION THEORY**

Bean’s (1980, 1982, 1983, and 1990) Student Attrition Model of persistence expanded the previous work of Tinto and Astin by integrating academic variables (i.e., student intent, goals, expectations, and external and internal environmental factors). In addition, Bean’s attrition model includes another set of five facets: (a) Routinization—the idea that student life becomes routine; (b) instrumental communication—how well an institution distributes information about student life; (c) participation in classroom decisions; (d) integration; and, (e) distributive justice—whether rewards are consistent with effort expended.

According to Felder-Thompson (2005), Bean’s model demonstrates how a student’s attitude and behavior correlates with institutional determinants to produce a level of satisfaction which encourages institutional commitment. Felder-Thompson cited Bean’s statement that a student’s environmental factor shapes his or her attitudes and invariably influence behavior. Students should feel a “sense of belonging” or “fitting in” within an academic environment in order to develop institutional commitment (Bean, 1990).

Bean’s Student Attrition Theory’s validity has been well-documented through his many persistence studies (Bean, 1982, 1983, 1985, and 1990). However, the predictive power of the influence of a student’s commitment was not supportive (Cabrera, Castaneda, Nora, & Hengster, 1992). Based on his research, Bean (1985) also developed a Conceptual Drop-Out Syndrome Model. This model focuses on a student’s socialization and how it impacts his or her academic, personal and social outcomes (Felder-Thompson, 2005). The Drop-Out Syndrome is characterized by a student’s intent to leave, discussions about leaving and the action of leaving, Bean explains and highlights the domains of his Student Attrition Theory (See Table 2).

Bean's (1980, 1982, 1983, and 1985) model bears many similarities to Tinto's (1975) model in all areas except the effects of external factors on students' persistence. He proposes that the role that external factors have on a student's decision to stay or leave is much more intricate than that indicated by Tinto.

**Table 2.** *Bean's Student Attrition Theory Domains*

Domains	Characteristics of Domains	Domain Measurements
Academic	Pre-Enrollment: Grades, Academic Integration	College Grades
Social and Psychological	Faculty Contact, Alienation, Social Life	Institutional Fit
Environmental	Finance, Opportunity to Transfer Outside Friends, Academic Experiences	Institutional Commitment

## 7. PADILLA'S EXPERTISE MODEL OF SUCCESSFUL COLLEGE STUDENTS

Padilla (1991, 1994) developed a local expertise model of successful ethnic minority students at a large research university in the Southwest. Padilla sought to identify the campus specific heuristic knowledge and actions that successful minority students employ to overcome barriers to academic success, an approach that is consistent with the expertise model of successful students. Padilla's expertise model focuses on the knowledge that successful students possess and the actions they employ to overcome barriers.

Padilla's expertise model is based on the results of qualitative research and on expert systems theory (Harmon & King, 1985), which suggested that the characteristics of successful college students are those in effect which make the students "experts" at being successful students. Consistent with Harmon and King's (1985) theory, expertise is viewed as compiled knowledge, which comprises two key components: theoretical and heuristic knowledge. Theoretical knowledge is knowledge acquired through a student's academic pursuit and heuristic knowledge is that which is acquired in everyday activities. He supports his theory that knowledge is based on acquired facts:

...the knowledge of an expert system consists of facts and heuristics. The 'facts' constitute a body of information that is widely shared publicly available, and generally agreed upon by experts in a field. The 'heuristics' are mostly private, little discussed rules of good judgment (rules of plausible reasoning, rules of good guessing) that characterize expert level decision making in the field. The performance level of an expert system is primarily a function of the size and the quality of a knowledge base it possesses. (Padilla, p. 187)

Theoretical knowledge is largely, book knowledge that is learned on campus through coursework and formal study, whereas heuristic knowledge is locally defined and is acquired experientially. Padilla et al. (1997) surmised that all students arrive on campus with an already acquired intensity of theoretical and heuristic knowledge. Upon their arrival on campus and subsequent indoctrination as a full-fledged student, they are challenged by the institution to demonstrate increasing levels of theoretical knowledge before they can be awarded a degree. Such knowledge is typically acquired through courses and demonstrated through performance on tests, examinations, research papers, or other formal assessment procedures.

This aspect of the college experience is well understood conventionally. However, the expertise model also suggests that students must acquire a certain amount of heuristic, or practical, knowledge that is necessary to function competently, as, knowing when to drop a course, rather than failing the course and acquiring skills when to change a major can make the difference between earning a degree or not obtaining one. In the case of financial aid, students must know the importance of funding to their persistence, and must monitor key deadlines to ensure that funds are available to continue in college.

Padilla (1991, 1994) pointed out that heuristic knowledge is not usually formally taught to students nor is it significantly generalizable from one institution to another. Heuristic knowledge is passed along informally from experienced students to new students on a one-to-one basis or by student organizations to groups of new students. Overall, heuristic knowledge is not acquired systematically, thus such knowledge may not reach all students. Yet, students are required to amass a substantial body of heuristic knowledge early in their college careers and to expand this knowledge throughout their college years. Those who fail to do so are not likely to complete their degrees since heuristic knowledge is critical for success.

The importance of using Padilla’s Expertise Model of Successful College Students has been extensively examined by Trevino and Rendon (1991, 1994). This model utilizes students’ perspectives in addressing campus-specific issues (Hernandez, 2000; Padilla et al., 1997). Researchers drew on Padilla’s view that successful students’ persistence is based on the knowledge of the student rather than identifying what students do wrong (Hurtado& Garcia, 1994; Rendon, 1994). The following figure compares Bean’s, Tintos, Astin’s and Padilla's theories.

Bean’s Theory (Elements)	Indicators	Tinto’s SIM (Elements)	Indicators	Astin’s Theory (Elements)	Indicators	Padilla’s Model (Elements)	Indicators
Academic : pre-college, grades, academic integration	College Grades	Pre-college: Sex, Race, SES, SAT scores, Class rank, H.S. Grades	Initial intentions, goals and institution	Opportunities for involvement	Student afforded opportunities to get involved	Pre entry-theoretical and heuristic knowledge	Initial knowledge level
	Institutional Fit						
Social/ Psychological: faculty contact, alienation, social life	Institutional Commitment Intent to persist Institutional Fit Family Approval, Friends Encouragement, Finance attitudes, Perceptions About Opportunity to Transfer	Social Integration, ability to make friends, extracurricular involvement	Involved in and outside classroom involvement within peer groups (in and outside group)	Student Involvement	Students actively involved in academic and co-curricular groups	Peer contact student involvement	One-on-one peer contact; join student organizations
		Institutional Commitment: Institution Goals		Opportunities for involvement			
Environmental: Finance, opportunity to transfer, outside family and friends, academic experiences		External Commitments	Academic and social integration		Students must actively exploit opportunities presented	Acquire new theoretical and heuristic knowledge	Course assessments; experiential learning
		Indirect					

**Figure 3.** A comparison of the elements in the Tinto, Astin, Bean, and Padilla Models

Therefore, the researches utilized procedures that incorporates conceptual models of student persistence of Tinto (1975, 1987, 1993), Astin (1984/1985), Bean (1990, 1982,1985), and Padilla (1991,1997) to examine factors that promote persistence for African American doctoral students at HBCUs in the Southern region of the United States as seen in Figure 3.

**8. METHODOLOGY**

Data were collected utilizing Likert scale surveys from two institutional groups by means of the *Doctoral Student Persistence Survey* for doctoral students to assess factors which promote persistence and those perceived barriers to student success. A convenience sample completed

surveys through SurveyMonkey.com. The resulting ordinal data, for purposes of analysis was not summed but, rather analyzed on a case by case basis using Spearman Rho Coefficient to determine the relationships between factors that measure students' perception of persistence toward degree completion (n=86 students). The population was all African American students in doctoral degree programs and institutional administrators at selected HBCUs in the Southern region of the United States. The focal institutions were: Alabama State University, Fayetteville State University, Florida A & M University, Grambling State University, Howard University and Jackson State University, and Morgan State University.

Based on the statement of the problem, the purpose of the study, and the conceptual framework, the following research questions and hypothesis were addressed:

Research Question 1: What are the motivating factors that influence African American graduate students at the respective HBCUs (Alabama State University, Fayetteville State University, Florida A&M University, Grambling State University, Howard University, Jackson State University, and Morgan State University) to persist toward completion of graduate programs?

Research Question 2: What are the factors that influence academic success for African American graduate students at the respective HBCUs (Alabama State University, Fayetteville State University, Florida A&M University, Grambling State University, Howard University, Jackson State University, and Morgan State University)?

Research Question 3: What are the barriers that impede progress for African American graduate students at the respective HBCUs (Alabama State University, Fayetteville State University, Florida A&M University, Grambling State University, Howard University, Jackson State University, and Morgan State University)?

Research Question 4: What are the intervention efforts utilized at the respective HBCUs (Alabama State University, Fayetteville State University, Florida A&M University, Grambling State University, Howard University, Jackson State University, and Morgan State University)?

It was hypothesized that:

H<sub>0</sub>1: There is no significant difference in the success rate of African American doctoral students and relationships development with faculty within their doctoral programs.

H<sub>0</sub>2: There is no significant difference in the success rate of African American doctoral students and a supportive faculty which has a strong impact of the student's intellectual development.

H<sub>0</sub>3: There is no significant difference in the success rate of African American doctoral students and adequate financial support and institutional commitment to the student.

H<sub>0</sub>4: There is no significant difference in the success rate of African American doctoral students and their personal commitment to the degree, family support, and practice of chosen religious belief.

H<sub>0</sub>5: There is no significant difference in the success rate of the African American doctoral student and feedback and grading of scholarly projects.

H<sub>0</sub>6: There is no significant difference in the success rate of African American doctoral students and faculty interest research and the ability to present research at professional conferences.

H<sub>0</sub>7: Institutional commitment, retention programs or policies, comprehensive orientations, and quality academic advisement have no significant impact on the success rate of African American doctoral students.

H<sub>0</sub>8: Professional development seminars or workshops and collaborative research projects have no significant impact on the success rate of African American doctoral students.

## 9. FINDINGS

*What are the motivating factors that caused African American graduate students at the respective HBCUs to persist toward completion of graduate program*

The hypotheses answered with these statements are:

1. H<sub>0</sub>1: There is no significant relationship between the success rate of African American doctoral students and relationship development with faculty within their doctoral programs.
2. H<sub>0</sub>2: There is no significant relationship in the success rate of African American doctoral students as it relates to a supportive faculty and a strong impact of the student's intellectual development.
3. H<sub>0</sub>3: There is no significant relationship between the success rate of African American doctoral students and adequate financial support and institutional commitment to the student.

The data collected indicated that the motivating factors that cause African American graduate students to persist toward degree completion were the areas which centered most on their relationships with faculty within their departments. They indicated that the strong impact of at least one faculty member in their program on their intellectual development and the ease at which faculty-student relationships are developed and maintained during the student degree pursuit assisted in their persistence. Both institutional administrators and the students themselves indicated adequate financial support as a motivating factor to persistence. However, the area that seemed to appear throughout the study for students is their relationships with faculty, whether that be through fair grading policies or collaborative research opportunities.

### **Research Question 2**

*What are the factors that influence academic success for African American graduate students at the respective HBCUs?*

The hypotheses answered with these questions are:

1. H<sub>0</sub>4: There is no significant relationship in the success rate of African American doctoral students and their personal commitment to the degree, family support, and practice of chosen religious belief.
2. H<sub>0</sub>5: There is no significant relationship between the success rate of the African American doctoral students and the feedback and grading of scholarly projects.

The data collected indicated that the factors which most influenced academic success for African American graduate students as it relates to their respective HBCUs were institutional support and commitment, faculty support and interest in their research, professional development, and adequate financial assistance. There were also three identified factors which had to do with persistence from the student viewpoint. They were family support and encouragement during the stresses of the doctoral process, their personal commitment to their goal of degree attainment, and their belief in and practice of their chosen religious faiths.

### **Research Question 3**

*What are the barriers that impede progress for African American graduate students at the respective HBCUs?*

The hypotheses answered with these questions are:

1. H<sub>0</sub>6: There is no significant relationship between the success rate of African American doctoral students and faculty that demonstrate an interest in their research and their ability to present that research at professional conferences.
2. H<sub>0</sub>7: Institutional commitment, e.g., retention programs or policies, comprehensive orientations, and quality academic advisement have no significance on the success rate of African American doctoral students.
3. H<sub>0</sub>8: Professional development seminars or workshops and collaborative research projects have no significance impact on the success rate of African American doctoral students.

The data collected indicated that the barriers that impede progress for African American graduate students at their respective HBCUs overwhelmingly were institutional support and commitment, faculty support and interest in their research, professional development, and adequate financial assistance. Though these are seen as success factors, they were also identified as potential barriers

to degree persistence. Both student participants and institutional administrators pointed out that financial packages which included research, travel, and conference grants as well as tuition stipends were most desirable, yet the most difficult to receive.

#### Research Question 4

*What are the intervention efforts utilized at the respective HBCUs?* Recruiting and retaining minority students are growing concerns for leaders of colleges and universities across the United States. Presidents of universities and deans of colleges have depicted minority recruitment and retention as vital issues for higher education. African American students completing their undergraduate education at HBCUs are more likely than those from other schools to attend graduate school and to complete doctoral degrees. HBCUs also account for 17 percent of African American graduate students in science and engineering fields (NSF, 2000b, p. 30). Therefore, often issues of recruitment and retention are not considered important at their graduate institutions. Further, the financial assistance, often available at TWIs, is not available at most HBCUs, except for specialty areas such as the science, engineering or public health areas.

The researchers examined University websites and recruitment, admission, and retention documents of the focal institutions in order to answer this research question. One researcher serve as the director of the Graduate Feeder Scholars Program (GFSP) in the School of Graduate Studies and Research GFSP, an official partnership agreement arranged by FAMU with more than 40 participating universities located throughout the United States. FAMU acts as the hub of the consortium with a committed role of providing a pool of qualified African American students motivated to pursue the Master's or Ph.D. degree. This individual's role is to be knowledgeable about graduate programs, including, but not limited to a university's recruitment, retention, and attrition statistics.

In fact, an examination of the websites and admission, recruitment, retention literature indicates that although each of the institutions under consideration had a retention and attrition policy statement, as well as a graduate school and/or graduate support program, Howard University had the only established program, the Retention, Mentoring, and Support Program. The goals of the Retention, Mentoring, and Support Program at Howard University are to:

1. provide the structure for an organized, well-designed program of mentoring and retention that will improve the quality of life for students in the Graduate School at Howard University
2. reduce attrition;
3. reduce time to degree;
4. provide opportunities for fellowships and internships; and
5. enhance career and professional development.

To achieve its goals, the Howard University Retention Mentoring Program works directly with peer mentors, graduate faculty, and graduate program directors to provide information, mentoring, recognition, role models, funding and other resources necessary to ensure the success of its graduate students. The Office of Retention and Mentoring works closely with academic departments to identify and secure funding for graduate students. Students compete for several prestigious fellowships annually both university based and nationally (See <http://www.gs.howard.edu/omrs/default.htm>).

Table 3 provides an Exploratory Factor Analysis of Student Persistence. The *Doctoral Student Persistence Survey* asked students to rate their satisfaction with factors that determine their ultimate persistence to degree completion. These factors included the student's commitment to their goal of degree completion; how they felt that their institutions demonstrated commitment to their degree completion through adequate financial support; their feelings on the importance of family support during the stresses of the doctoral process; and how the practice and belief in their chosen religious faiths affected their persistence toward degree completion.

**Table 3.** *Exploratory Factor Analysis of Student Persistence*

Exploratory Factor Analysis of Student Persistence			
Persistence Factors $\leftrightarrow$ % of Variance = Statistical Dispersion			
Persistence to Degree Completion	$\leftrightarrow$	39.4%	Commitment to Goal
	$\leftrightarrow$	27.6%	Institution Financial Support
	$\leftrightarrow$	20.5%	Family Support
	$\leftrightarrow$	17.6%	Religious Belief/Faith

The results of the Exploratory Factor Analysis indicated that the students had a 39.4 percent variance or statistical dispersion in their commitment to their goal of degree attainment. This analysis supports what researchers in other studies (Ford-Edwards, 2002 and Felder-Thompson, 2005) have concluded, which is that African American doctoral students are a strongly resilient group and persist beyond odds. The analysis also indicated that there was a 27.6 percent variance or statistical dispersion in the student’s belief that their institutions were committed to their goal of degree completion through the awarding of adequate financial support. Previous studies which looked at the importance of financial support to a student’s decision to persist or not to persist have been wide-ranging. These studies offered no clear indicators of its importance, however, suggesting that if a student failed to persist because of financial reasons, the student more often than not had issues with the institution itself (Ford-Edwards, 2002).

Family support indicated a 20.5 percent variance or statistical dispersion. This result is in line with other studies in that family support is seen by the majority of participants in the study as a major importance in their decision to persist. Doctoral programs are accompanied with a great deal of stressors, family support acts as a path to stress relief and potential crisis solving. Religious faith or practice in religious beliefs indicated a 17.6 percent variance or statistical dispersion. These results indicate that a participant’s religious faith or belief plays a significant role in their persistence; often offering a major source of motivation for a student’s ultimate academic success.

Each of these four persistence factors determines the student’s ultimate persistence to degree completion. They total 100 percent of the student’s overall satisfaction with factors that equal academic success. These results overwhelmingly support the fact that African American students in doctoral programs at selected HBCUs persist for a variation of reasons, but they do persist greatly in part to their own inner desire and commitment to their goals.

**10. ANALYSIS OF FINDINGS**

Upon review of the statistical analysis, several themes emerged as significant in participants’ responses which indicate that (1) faculty support, (2) clear communication, (3) family support, (4) relationship building with faculty and other students within their programs, (5) institutional commitment to graduate education, (6) freedom from financial burdens, and (7) their belief in and practice of their chosen religion were significant factors in motivating African American graduate students towards academic success (we can’t use or note that several themes exists because this was a quantitative study – change themes to something else). Themes which emerged as perceived barriers by the students, as well as the administrators were (1) lack of adequate financial support, (2) institutional commitment to graduate education, (3) students relationships with faculty, (4) clearly established retention policies and (5) and clear articulation of institution’s commitment to graduate education.

Consequently, the emerging themes of both persistence factors and perceived barriers offer a lens through which the student’s experiences in their respective graduate programs and institutions can be understood. It also allows the researcher’s the opportunity to ponder the development of a useful model for improving attrition, retention, and graduation rates at HBCUs nationally. Earlier we discussed previous models of students’ success by theorist Astin (1996), Tinto (1975), Bean (1980), and Padilla (1991). Each of them examined persistence behavior of students which lead to

their ultimate success. However, the factors of persistence at HBCUs given their unique financial postures and limited resources sometimes vary immensely from those of TWIs, leaving their students with the task of mastering other avenues for persistence. While these models were very useful in recognizing behaviors which students utilize to persist in the social and academic educational environments, their measure of student success had often been limited to whether the student actually completed their intended degrees. This study examined what factors were perceived by both the administrators who managed graduate programs and the students who navigated those programs. From this examination, the researchers were able to glean the emergence of the success strategies utilized by African American graduate students to persist toward degree completion. Thus, we consider those who have successfully navigated these processes, experts in the application of persistence.

It was concluded that institutional and faculty support, as well as adequate financial resources, was vital to these students' ultimate success. No association was found between the success of African American graduate students and their perceptions of the relationship of development with faculty; perceptions of supported faculty; financial support and institutional commitment. Similarly, there was no association between academic success of the African American student and graduates in the study and personal commitment, family support, and chosen religious beliefs.

Recommendations for further study included developing comprehensive retention programs; conducting an in-depth analysis of attrition factors in doctoral education of African American students; and offering professional development workshops and seminars as a required components of doctoral curriculum.

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